

**UNITED STATES OF AMERICA  
DEPARTMENT OF ENERGY**

**National Electric Transmission  
Congestion Study**

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**COMMENTS OF THE  
ARIZONA CORPORATION COMMISSION**

The Arizona Corporation Commission ("ACC") files these comments to the Department of Energy ("DOE") in response to the DOE August 2006 National Electric Transmission Congestion Study (hereinafter, "the DOE Study") and the possible designation of a National Interest Electric Transmission Corridor (hereinafter, "National Corridor") in Arizona.

**I. OVERVIEW**

As discussed below, we recognize that the DOE Study may appropriately be a consideration for a National Corridor in Arizona, however prior to any such final designation by the DOE, it is imperative that DOE consult with and reach consensus with the State of Arizona (specifically the Arizona Corporation Commission) as well as other appropriate stakeholders to confirm that all pertinent factors are considered.

The State of Arizona has a long history of cooperation and collaboration among electric transmission owners and users to ensure the most effective use of Arizona's transmission infrastructure. Additionally, a proven line siting process for Arizona has been in place for many years in which proposed transmission line projects within the state are fully reviewed and evaluated with proper consideration for issues brought by all stakeholders.

In the interest of fair representation to the residents of Arizona and the entities regulated by the Arizona Corporation Commission, we therefore advise DOE that the ACC is the appropriate Arizona State Representative for the siting of electric transmission facilities in Arizona. Additionally, we request that DOE consult with the ACC prior to any Arizona National Corridor designations in accordance with provisions of the Federal Power Act (Sec. 216).

**II. COMMUNICATIONS**

Address all communications related to these comments to:

Mr. Ernest G. Johnson  
Director, Utilities Division  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, AZ 85007

### **III. COMMENTS ON THE DOE STUDY**

The DOE Study is the first study of the Nation's transmission grid and has similarities to our own Arizona transmission assessment updated every two years and further described below in Section IV. We appreciate that the DOE Study is a work in progress much like the Arizona transmission assessment. In reviewing the DOE Study and various filed and otherwise available comments, we find that as with our own continuing Arizona reviews of the state's electrical system, there are factors that deserve further consideration in the next preparation of the Study (presumably 2009 for DOE).

For example, the Phoenix to Tucson Congestion Area of Concern, as noted in the DOE Study, has been a consideration in Arizona transmission planning forums for many years. This recognition and other load requirements in the area south of Phoenix has led to ACC approval in 2004 of a double circuit 500 kV transmission line between the Palo Verde Generation Hub west of Phoenix and the Pinal West Substation south of Phoenix. Additionally, with continued ACC approval in 2005, this Palo Verde to Pinal West project was expanded through the Casa Grande area (south and almost half way to Tucson from Phoenix) and back to the southeast side of Phoenix as a 500 kV/230 kV double circuit line including new substation facilities. Engineering and land procurement is presently underway for this combined 150 mile long project with construction expected to begin this year. This extension of the Phoenix area transmission grid to the south provides an opportunity for others to complete the connection to Tucson and these scenarios are being studied by utilities and various planning groups described in Section IV B.

We note also that one important corridor for Arizona is the Tucson to Nogales corridor, which is not mentioned in the DOE Study. This corridor has important reliability and delivery implications for South Central Arizona. Following extensive hearings with all stakeholders, a 345 kV double circuit line 65 miles in length was approved by the ACC in 2001 between south Tucson and the border with Mexico at Nogales to tie with generation sources in Mexico. This project would have addressed various reliability and supply problems in this area; however, the project has not started construction due primarily to Federal preemption with regard to permitting and routing through National Forest Land. We consider this Tucson to Nogales corridor to be of greater concern to the Arizona transmission grid than the Phoenix to Tucson Congestion Area of Concern in the DOE Study. Therefore we question the evaluative tools used in the DOE Study.

We have no doubt appropriate comments such as the examples noted above will be solicited by DOE at the appropriate time and fully considered for the next iteration of the DOE Study. We recognize the extended opportunity for input and therefore have offered the above examples as Arizona proceedings requiring more consideration in the next DOE Study. Additionally, we will further address the possible designation of National Corridors in Arizona in the following discussion.

It is our understanding that National Corridors may be designated in Critical Congestion Areas, Congestion Areas of Concern and Conditional Congestion Areas (as defined in the DOE Study). Additionally, it is inferred from the available documentation that the Secretary may also deem any other geographic area a National Corridor based on information that is not clearly

defined. While it is commendable that DOE now plans to issue any National Corridor designations in draft form to States, regional entities and the general public to allow additional opportunities for review and comment, we believe a more clearly defined overall process for National Corridor designations is needed. Regional and state planning groups would then be in a position to prepare their studies and recommendations with consideration for possible DOE action.

We offer below the key points that should be included in a National Corridor designation process:

- Establish procedures for consultation with appropriate state agencies
- Establish criteria or metrics for National Corridors
- Determine how the criteria or metrics are evaluated and weighted
- Define the draft designation decision based on the criteria or metrics
- Define the “stakeholder” review of the draft designation
- Define the final designation criteria based on “stakeholder” review and other allowable interest
- Define the criteria for appeal

#### **IV. REVIEW OF THE ARIZONA COLLABORATIVE PROCESS FOR TRANSMISSION PLANNING**

##### **A. Arizona Corporation Commission Biennial Transmission Assessment**

The ACC prepares a Biennial Transmission Assessment (“BTA”) every two years with the first BTA completed in 2000 and the fourth BTA for 2006 now in the final stage of completion. This BTA is intended to inform the ACC and other affected parties regarding the adequacy of the existing and planned transmission facilities in Arizona to meet the present and future energy needs of Arizona in a reliable manner.

The BTA preparation utilizes Ten-Year studies, Reliability Must Run (RMR) studies, and other technical reports and documents required of and filed with the Commission by the various regulated electric transmission organizations in the state.

In the 2006 BTA, a set of guiding principles were used to determine whether the Arizona transmission system will be adequate during the next ten year period. The reliability of an existing or planned electric system under existing, alternative or future operating conditions can only be determined by technical simulation studies, including load flow, stability and short circuit analysis. Such studies require the application of a set of study criteria to measure the system’s performance. In assessing the Arizona transmission system adequacy, ACC Staff

critically reviewed and analyzed pertinent transmission planning documents and addressed the following questions:

1. Do the proposed Arizona transmission system plans meet the load serving requirements of the state during the 2006-2015 time period in a reliable manner?
2. Was the transmission planning process conducted in accordance with the transmission planning principles and good utility practices accepted by the power industry?
3. What steps were taken in the new transmission planning studies to effectively address the ACC's concerns raised in the earlier BTAs about the adequacy of the state's transmission system to reliably support the competitive wholesale market emerging in Arizona?
4. Do the generation interconnection practices in Arizona adequately reflect technical aspects of the generation interconnection policies as defined in Federal Energy Regulatory Commission Orders?
5. Do the transmission plans adequately reflect North America Electric Reliability Council's ("NERC") latest activities related to compliance with the transmission planning standards, as well as compliance with Western Electricity Coordinating Council ("WECC") reliability standards?

The resultant transmission assessment represents the professional opinion of ACC Staff. The BTA is not an evaluation of individual transmission provider's facilities or quality of service. The BTA report does not set ACC policy and does not recommend specific action for any individual Arizona transmission provider. It assesses the adequacy of Arizona's transmission system to reliably meet existing and future energy needs of the state.

In the 2006 BTA, ACC Staff concluded that the collaborative process between the ACC and Arizona utilities, which began in previous BTAs, has continued to evolve in a constructive manner. Transmission owners have been responsive to many issues raised by ACC in prior BTA's, including the level of ability of the Palo Verde transmission system to handle full generation output, Palo Verde Hub reliability issues and the economic viability of generators at the Palo Verde Hub, clarifying the criteria and study processes that Arizona utilities utilize to formulate their RMR plans, and a number of other issues that are discussed in the report.

#### **B. Arizona Transmission Planning Forums**

Extensive regional planning studies have been conducted in Arizona and the Western United States overall by numerous transmission planning and government agency groups. Additionally, these planning and government agency groups work together through various organizations to achieve a synergy that further enhances and validates the conclusions and recommendations that arise from these collaborations. Noted below are some of the Arizona and

Western Area groups that have and will continue to ensure that transmission planning in Arizona and connected areas in the West is effective and continually improving:

The Southwest Area Transmission ("SWAT") regional planning group<sup>1</sup> includes two states (Arizona and New Mexico) and parts of four others states (Southern California, West Texas, Southern Nevada, and Southern Colorado) to promote regional planning in the Desert Southwest. The SWAT regional planning group includes four main subcommittees, which are overseen by the SWAT Oversight Committee. They are:

1. SWAT Arizona-New Mexico Regional Transmission

The SWAT Arizona-New Mexico regional transmission subcommittee was formed to study the Eastern Arizona and Western New Mexico regional transmission system, including (but not limited to) the Four Corners, Springerville and Greenlee/Hidalgo areas. This regional analysis includes the participation of: Arizona Public Service, Western Area Power Administration, Southern California Edison, California Independent System Operator, Public Service Company of New Mexico, Tucson Electric Power, PacifiCorp, Tri-State GT, Dine Power Authority, BHP Billiton, Navajo Tribal Utility Authority, Salt River Project, Southwest Transmission Cooperative, and other interested Parties.

2. SWAT Colorado River Transmission (CRT)

The SWAT Colorado River Transmission subcommittee was formed to study the area within the geographic region from Palo Verde to the Colorado River and southern Nevada to Yuma, Arizona. This regional analysis includes the participation of: Arizona Power Authority, Western Area Power Administration, Nevada Power, Southern California Edison, Imperial Irrigation District, California ISO, Arizona Public Service, Salt River Project, Tucson Electric, Central Arizona Project, and other interested Parties.

3. SWAT Central Arizona Transmission EHV

The SWAT Central Arizona Transmission subcommittee, formerly know as the CATS Study Group, studies the Central Arizona EHV transmission system. This regional analysis includes the participation of: Arizona Public Service, Salt River Project, Southwest Transmission Cooperative, Tucson Electric, Western Area Power Administration and other interested Parties.

A subcommittee to the CATS EHV subcommittee is the CATS HV subcommittee. This group was formed to study the HV Transmission system in the Central Arizona region. This regional analysis includes the participation of: Arizona Public Service, Salt River Project, Southwest

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<sup>1</sup> <http://www.azpower.org/swat/description.asp>

Transmission Cooperative, Tucson Electric, Western Area Power Administration, Central Arizona Project, ED-2, ED-3, ED-4 and other interested Parties.

#### **4. SWAT New Mexico Transmission**

The SWAT New Mexico Transmission Subcommittee was formed to study the New Mexico and Southwest Texas region. This regional analysis includes the participation of: Public Service Company of New Mexico, El Paso Electric, Tri-State GT and other interested Parties.

WestConnect<sup>2</sup> is composed of utility companies providing transmission of electricity in the Southwestern United States. The members work collaboratively to assess stakeholder and market needs and to develop cost-effective enhancements to the western wholesale electricity market. WestConnect is committed to coordinating its work with other regional industry efforts to achieve as much consistency as possible in the Western Interconnection.

The Western Electricity Coordinating Council ("WECC")<sup>3</sup> was formed on April 18, 2002, by the merger of the Western Systems Coordinating Council, Southwest Regional Transmission Association, and Western Regional Transmission Association. The WECC encompasses a vast area of nearly 1.8 million square miles and is responsible for coordinating and promoting electric system reliability. In addition to promoting a reliable electric power system in the Western Interconnection, WECC supports efficient competitive power markets, assures open and non-discriminatory transmission access among members, provides a forum for resolving transmission access disputes, and provides an environment for coordinating the operating and planning activities of its members.

Membership in WECC is voluntary and open to any organization having an interest in the reliability of interconnected system operation or coordinated planning. WECC provides the forum for its members to enhance communication, coordination and cooperation—all vital ingredients in planning and operating a reliable interconnected electric system.

#### **V. REVIEW OF THE ARIZONA LINE SITING PROCESS<sup>4</sup>**

In 1971, the Arizona Legislature required that the ACC establish the Arizona Power Plant and Transmission Line Siting Committee ("Committee"). The Committee provides a single, independent forum to evaluate applications to build power plants (of 100 megawatts or more) or transmission projects (of 115,000 volts or more) in the state. The Committee holds meetings and hearings that are open to the public.

The Committee was created after the Legislature found that existing law did "not provide adequate opportunity for individuals, groups interested in conservation and the protection of the

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<sup>2</sup> <http://www.westconnect.com>

<sup>3</sup> <http://www.wecc.biz/>

<sup>4</sup> <http://www.azcc.gov/utility/electric/linesiting-faqs.htm#a>

environment, local governments, and other public bodies to participate in a timely fashion in the decision to locate a specific major facility at a specific site."

Members of the Committee are:

- State attorney general or the attorney general's designee. (Chairman of Committee)
- Director of the Arizona Department of Water Resources or the director's designee.
- Director of the Arizona Department of Environmental Quality or the director's designee.
- Director of the energy office of the Arizona Department of Commerce or the director's designee.
- Chairman of the Arizona Corporation Commission or the chairman's designee.
- Six members appointed by the Arizona Corporation Commission to serve for a term of two years. Three of the members shall represent the public, one member shall represent incorporated cities and towns, one member shall represent counties and one member shall be actively engaged in agriculture.

The Committee Chairman directs the flow of the meeting and makes procedural decisions in accordance with Arizona law. However, each member of the Committee, including the Chairman, has a single vote. In general, the Committee has 180 days from the date the application is filed to come to a decision.

The procedures for the Committee's activities are set forth in law and administrative regulations. After an application to build a power plant or transmission line is filed with the ACC, copies are sent to all members of the Committee. The Chairman of the Committee sets a hearing date and provides public notice of the hearing date and location. Any member of the public can attend the hearing. The hearing will include testimony and exhibits from the applicant, and testimony and exhibits from any groups or individuals who are granted party, or intervener, status. There is cross-examination of the witnesses by the parties. The Committee members also ask questions of the witnesses, and may ask for additional information. After all the information is before the Committee, the Committee members will discuss the matter and will take a vote on whether to grant or deny a "Certificate of Environmental Compatibility," which is a formal document that is necessary before the power plant or transmission line can be built. If granted, the Certificate is then forwarded to the Commission for review and action. If denied, the applicant may request that the Commission rehear the matter.

The Legislature envisioned the plant and line siting process as a public process that benefits from public input. The Chairman of the Committee will call the meeting to order and allow time for public comment. If there are many people who wish to speak, the Chairman may impose a time limit for each person making public comment.

Factors for consideration for issuing a Certificate of Environmental Compatibility include:

- Existing plans of the state, local government and private entities for other developments at or in the vicinity of the proposed site.
- Fish, wildlife and plant life and associated forms of life upon which they are dependent.
- Noise emission levels and interference with communication signals.
- The proposed availability of the site to the public for recreational purposes, consistent with safety considerations and regulations.
- Existing scenic areas, historic sites and structures or archaeological sites at or in the vicinity of the proposed site.
- The total environment of the area.
- The technical practicability of achieving a proposed objective and the previous experience with equipment and methods available for achieving a proposed objective.
- The estimated cost of the facilities and site as proposed by the applicant and the estimated cost of the facilities and site as recommended by the committee, recognizing that any significant increase in costs represents a potential increase in the cost of electric energy to the customers or the applicant.
- Any additional factors which require consideration under applicable federal and state laws pertaining to any such site.

The Committee has fairly broad discretion and can require that a plant or transmission line conform to certain conditions.

Within the parameters of the law, the Commission can also amend an application to include conditions it deems necessary for a project to be in the broad public interest.

Since the year 2000, the ACC has approved more than 20 major transmission projects across Arizona ranging from 115 kV to 500 kV and totaling approximately 600 linear miles of transmission corridor plus associated substation facilities. This past approval rate of



approximately 100 linear miles of transmission corridor per year in Arizona is anticipated to continue for the foreseeable future.

## **VI. ARIZONA REVISED STATUTES**

The Arizona Revised Statutes ("A.R.S.") promulgate several actions, policies and procedures described in these "Comments". Applicable statutes are noted below with a brief description of the statute. The full text of the statutes is available online at: <http://www.azleg.state.az.us/ArizonaRevisedStatutes.asp?Title=40>.

A.R.S. §40-360.01 requires the establishment of a power plant and transmission line siting committee (further discussed in Section V herein).

A.R.S. §40-360.02 requires every person contemplating any transmission line within the state to file a Ten Year Plan with the Arizona Corporation Commission on or before January 31 of each year and for the Arizona Corporation Commission to determine the adequacy of existing and planned transmission facilities in the state to meet present and future energy needs in a reliable manner (further discussed in Section IV. A herein).

A.R.S. §40-360.07 requires any utility contemplating any transmission line within Arizona to obtain a Certificate of Environmental Compatibility from the Arizona Corporation Commission prior to construction. The Commission is to conduct and record a review of applications for Certificates of Environmental Compatibility and conduct related appeals. The Commission "shall balance, in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize the effect thereof on the environment and ecology of the state".

A.R.S. §40-360.06 describes the factors to be considered by the Arizona Corporation Commission in issuing a Certificate of Environmental Compatibility.

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## VII. Conclusion

For the reasons stated above, it is prudent for the State of Arizona (specifically the Arizona Corporation Commission) to have significant representation in any decision by DOE to designate National Corridors in Arizona. Accordingly, the ACC anticipates DOE notice of proposed National Corridors in Arizona and consultation with the ACC prior to final corridor designations so that any pertinent information not considered and of benefit to Arizona may be included.

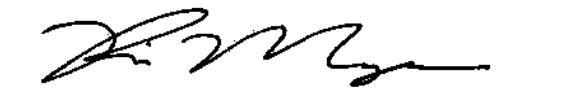
Dated: February <sup>27</sup>~~26~~, 2007

Respectfully submitted by the Arizona Corporation Commission

  
Jeff Hatch-Miller, Chairman

  
William A. Mundell, Commissioner

  
Mike Gleason, Commissioner

  
Kristin K. Mayes, Commissioner

  
Gary Pierce, Commissioner